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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Schmidt, *et al.* Docket No.: INTECH 3.0-037 02 P 01514
Serial No.: 10/671,123 Art Unit: 2823
Filed: September 24, 2003 Examiner: Brewster, William M.
For: Structure and Method for Placement, Sizing and Shaping of Dummy
Structures

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE

Dear Examiner:

Applicants respectfully request reconsideration of the claims in view of the following remarks, which are submitted as a full and complete response to the Examiner's Office Action dated September 27, 2004.

In the Claims:

1. (Original) A method for use in fabricating a chip, the method comprising the steps of:
determining a density and location of at least one functional area of a layer; and
adding dummy structures to said layer as a function of the determined density and
determined location.
2. (Original) The method of claim 1 wherein for at least one of the dummy structures, the
adding step includes the steps of:
determining a placement of said one dummy structure as a function of the width and
density of functional areas within a predetermined distance of a location; and
determining a size of said one dummy structure as a function of the determined
placement.
3. (Original) The method of claim 2 further comprising determining a shape of said one
dummy structure as a function of the determined size.
4. (Original) A method for use in fabricating a chip, the method comprising the steps of:
determining a density and location of functional areas of a layer in relation to a location
being processed; and
adding dummy structures to said layer as a function of the determined density and
determined location, said dummy structures each having placement determined as a function of
the width and density of the functional areas, size determined as a function of the determined
placement, and shape determined as a function of the determined size.

REMARKS

Claims 1-4 are pending in the present application. No new matter has been added.

Claims 1-4 have been rejected under 35 U.S.C. § 102(e) as assertedly being anticipated by U.S. Patent Application Publication No. 2003/0102562 A1 to Tomita (hereinafter "Tomita"). Applicants respectfully traverse these rejections.

Regarding claim 1, the Office Action asserts that paragraph 71 of Tomita discloses Applicants' invention as recited in claim 1. For reference, paragraph 71 of Tomita is duplicated below.

[0071] In Embodiment 1, the large dummy patterns 11*b* are regularly arranged from the region apart from the actual pattern 9 so as to bed thereon, and the small dummy patterns 11*a* are regularly arranged so as to be inserted in the region of the gap around the actual pattern 9 where the large dummy patterns 11*b* can not be arranged. Accordingly, the width of the trench-type isolating oxide film 13 does not exceed the predetermined width. Therefore, it is possible to suppress an increment of the abrading rate when the isolating oxide film 13*a* is abraded by the CMP method, whereby a sink of the film in the thickness direction by dishing can be prevented.

(Emphasis added.)

As can be seen from the sections emphasized above, Tomita simply discloses placing dummy patterns in regular intervals, wherein small dummy patterns are used "where the large dummy patterns 11*b* can not be arranged."

In contrast, the dummy structures of Applicants' claim 1 are "a function of the determined density and determined location" of at least one functional area. In other words, the density and location of the active areas are used as factors to add dummy structures. Tomita does not disclose this feature, but rather simply discloses filling vacant spaces with either a large or small dummy structure *regardless of the density and location of the active areas*.

For example, consider a region having a high density of active areas adjacent to a vacant space large enough to accommodate a large dummy structure. According to Tomita, a large dummy structure would be fabricated in the vacant space. This is not necessarily the case with the method of Applicants' claim 1, wherein adding the dummy structures are "a function of the

determined density and determined location" of the functional areas. Thus, because Tomita fails to disclose at least one limitation of Applicants' claim 1, claim 1 is deemed to be in condition for allowance.

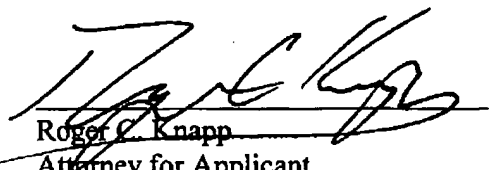
Claims 2-3 depend from and further limit independent claim 1 in a patentable sense and, therefore, are also deemed to be in condition for allowance. Claim 4 recites a limitation similar to that discussed above with reference to claim 1, and therefore, is deemed to be in condition for allowance for similar reasons. Accordingly, it is respectfully requested that the rejection of claims 1-4 under 35 U.S.C. § 102(e) as being unpatentable be reconsidered and withdrawn.

In view of the above, Applicants respectfully submit that the application is in condition for allowance and requests that the Examiner pass the case to issuance. If the Examiner should have any questions, Applicants request that the Examiner please contact Applicants' attorney at the address below. In the event that the enclosed petition for extension of time fees are insufficient, please charge any additional fees required to keep this application pending, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

January 27, 2005
Date

SLATER & MATSIL, L.L.P.
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Roger C. Knapp
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PTO/SB/81 (06-04)

Approved for use through 11/30/2005. OMB 0651-0035

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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POWER OF ATTORNEY and CORRESPONDENCE ADDRESS INDICATION FORM	Application Number	10/671,123
	Filing Date	September 24, 2003
	First Named Inventor	Schmidt, et al.
	Title	Structure and Method for Placement, Sizing and Shaping of Dummy Structures
	Art Unit	2823
	Examiner Name	Brawster, William M.
	Attorney Docket Number	INTECH 3.0-037 02 P 01514

I hereby appoint:

☒ Practitioners associated with the Customer Number:

48154

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☐ Practitioner(s) named below:

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

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I am the:

☐ Applicant/Inventor☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

SIGNATURE of Applicant or Assignee of Record

Signature	<i>J.V. Post</i> <i>J.V. Gristenbreu</i>	Date	20.01.2005
Name	Ms. Post Ms. Gristenbreu	Telephone	+49/89/234-28413
Title and Company	both authorized Patent administrator Infineon Technologies AG		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/98 (09-04)

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)Applicant/Patent Owner: Infinion Technologies AGApplication No./Patent No.: 10/671,123Filed/Issue Date: September 24, 2003Entitled: Structure and Method for Placement, Sizing and Shaping of Dummy StructuresInfinion Technologies AG

(Name of Assignee)

a Corporation

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____ %

In the patent application/patent identified above by virtue of either:

A ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

B ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: Inventors To: Infinion Technologies North America Corp.

The document was recorded in the United States Patent and Trademark Office at
Reel 015393, Frame 0295, or for which a copy thereof is attached.

2. From: Infinion Technologies North America Corp. To: Infinion Technologies AG

The document was recorded in the United States Patent and Trademark Office at
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3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☐ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

i.v. Pohl i.v. Gierstbreu

Signature

20.01.2005

Date

Ms. PohlMs. Gierstbreu

Printed or Typed Name

+49/89/234 28413

Telephone Number

both authorized Patent administrator
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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FACSIMILE COVER SHEET

To Examiner: William M. Brewster Technology Center 2800	Total Pages Sent: 9 (including cover sheet)
Facsimile Number: (703) 872-9306	Transmission Date: January 27, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Schmidt, *et al.* Docket No.: INTECH 3.0-037 02 P 01514
Serial No: 10/671,123 Art Unit: 2823
Date Filed: September 24, 2003
Title: Structure and Method for Placement, Sizing and Shaping of Dummy Structures

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that the following papers are being transmitted by facsimile to the U.S. Patent and Trademark Office at (703) 872-9306 on the date shown above:

- Certification of Facsimile Transmission (1 page)
- Petition for Extension of Time Under 37 CFR 1.136(a) (1 original and 1 copy)
- Response (4 page)
- Power of Attorney and Correspondence Address Indication Form (1 page)
- Statement Under 37 CFR 3.73(b) (1 page)

Respectfully submitted,


Kristin Hayes
Legal Assistant

Confirmation Respectfully Requested


This facsimile is intended only for the use of the address named and contains legally privileged and/or confidential information. If you are not the intended recipient of this telecopy, you are hereby notified that any dissemination, distribution, copying or use of this communication is strictly prohibited. Applicable privileges are not waived by virtue of the document having been transmitted by Facsimile. Any misdirected facsimiles should be returned to the sender by mail at the address indicated on this cover sheet.

PTO/SB/22 (08-04)

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) INTECH 3.0-037 02 P 01514	
Application Number 10/671,123		Filed September 24, 2003	
For Structure and Method for Placement, Sizing and Shaping of Dummy Structures			
Art Unit 2823		Examiner Brewster, William M.	
This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.			
The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):			
<input checked="" type="checkbox"/> One month (37 CFR 1.17(a)(1))	Fee \$ 120.00	Small Entity Fee \$ 60.00	\$ <u>120.00</u>
<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$ 450.00	\$ 225.00	\$ _____
<input type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$ 1020.00	\$ 510.00	\$ _____
<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$ 1590.00	\$ 795.00	\$ _____
<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$ 2160.00	\$ 1080.00	\$ _____
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.			
<input type="checkbox"/> A check in the amount of the fee is enclosed.			
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.			
<input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.			
<input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>50-1065</u> . I have enclosed a duplicate copy of this sheet.			
WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.			
I am the <input type="checkbox"/> applicant/inventor.			
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).			
<input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>46,838</u>			
<input type="checkbox"/> attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____			
 Signature		<u>January 27, 2005</u> Date	
<u>Roger C. Knapp</u> Typed or printed name		<u>972-732-1001</u> Telephone Number	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.			
<input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.			

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$ 450.00	\$ 225.00	\$
<input type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$ 1020.00	\$ 510.00	\$
<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$ 1590.00	\$ 795.00	\$
<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$ 2160.00	\$ 1080.00	\$
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.			
<input type="checkbox"/> A check in the amount of the fee is enclosed.			
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.			
<input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.			
<input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>50-1085</u> . I have enclosed a duplicate copy of this sheet.			
WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.			
I am the <input type="checkbox"/> applicant/inventor.			
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).			
<input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>46,836</u>			
<input type="checkbox"/> attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____			
 Signature		January 27, 2005 Date	
Roger C. Knapp Typed or printed name		972-732-1001 Telephone Number	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.			
<input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.			

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